



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Formulator: Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(928) 783-8844

Emergency Phone: (928) 783-3803
For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®: **Inside the U.S.:** (800) 424-9300
Outside the U.S.: (703) 527-3887
For MEDICAL Emergency: (888) 478-0798

Product: **TNT™ Broadleaf**

EPA Signal Word: Caution
Active Ingredient: Tribenuron Methyl (25%)
Active Ingredient: Thifensulfuron Methyl (50%)

EPA Registration No.: 10163-300
CAS No.: CAS No: 101200-48-0
CAS No.: CAS No: 79277-27-3

2. HAZARDS IDENTIFICATION

Emergency Overview

CAUTION! Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

Potential Health Effects (based on animal data)

- Repeated skin contact with Tribenuron Methyl may cause allergic skin rashes.
- Eye contact with Tribenuron Methyl may cause eye irritation with discomfort, tearing, or blurring of vision.
- Skin contact with Thifensulfuron Methyl may cause skin irritation with discomfort or rash. Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human skin sensitization.
- Eye contact with Thifensulfuron Methyl may cause eye irritation with discomfort, tearing, or blurring of vision.
- Inhalation of Thifensulfuron Methyl may cause irritation of the upper respiratory passages, with coughing and discomfort.

Human Health Effects

- Overexposure to Thifensulfuron Methyl by skin contact may initially include skin irritation with discomfort or rash. Significant skin permeation, and systemic toxicity, after contact appears unlikely. There are no reports of human sensitization.
- Overexposure by eye contact may initially include eye irritation with discomfort, tearing, or blurring of vision.
- Overexposure by inhalation may initially include irritation of the upper respiratory passages, with coughing and discomfort.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Tribenuron Methyl (25%) Chemical Name:	None Established	None Established	N/A	No
	2-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) methylamino] carbonyl] amino] sulfonyl] benzoate			
Thifensulfuron Methyl (50%) Chemical Name:	None Established	None Established	N/A	No
	Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate			
Chemical Class:	Sulfonylurea			

Only the identities of the active ingredient(s) and any *hazardous* inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

4. FIRST AID MEASURES

- IF ON SKIN OR CLOTHING:**
- Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15-20 minutes.
 - Call a poison control center or doctor for treatment advice.
- IF IN EYES:**
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
 - Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-478-0798 for emergency medical treatment information.

IN ALL CASES OF SUSPECTED POISONING, GET MEDICAL ATTENTION IMMEDIATELY.

5. FIRE FIGHTING MEASURES

Flammable Properties

Tribenuron Methyl - LEL : 0.173 g/l; Autoignition : 420 C (788 F)

Thifensulfuron Methyl - LEL: 0.25 g/l

Fire and Explosion Hazards:

- Not a fire or explosion hazard.
- Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

Extinguishing Media

- Water Spray, Dry chemical, CO2.

Fire Fighting Instructions

- Wear self-contained breathing apparatus. Runoff from fire control may be a pollution hazard.
 - If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce by-products more toxic than the original material. If product is on fire, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.
-

6. ACCIDENTAL RELEASE MEASURES

NOTE:

Review FIRE FIGHTING MEASURES and HANDLING sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

EMERGENCY RESPONSE:

- Chemical resistant coveralls, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.
- Initial Containment
- Follow applicable Federal, State/Provincial and Local laws/ regulations.
- Dike spill - Prevent material from entering sewers, waterways or low areas.

Spill Clean Up

- Shovel or sweep up.

Accidental Release Measures

- If spill area is on ground near valuable plants and trees, remove top 2 inches of soil after initial clean up.
-

7. HANDLING AND STORAGE

Handling (Personnel)

- Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Wash clothing after use. Do not store or consume food or drink, or use tobacco, in areas where they may become contaminated with this material.
- **USERS SHOULD:** Wash hands before eating, drinking, chewing, gum, using tobacco or using the toilet.

Storage

- Store product in original container only. Do not store or consume food or drink or use tobacco in areas where they may become contaminated with this material. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.
-

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation.

Personal Protective Equipment

Always follow label instructions when using this product.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant Gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) all equal to or greater than 14 mils.
- Shoes plus socks.

Follow manufacturer's instructions for cleaning and maintaining personal protective equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical Resistant Gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) all equal to or greater than 14 mils.
- Shoes plus socks.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Solubility in water:	Dispersible
pH:	5.7
Odor:	Slightly pungent
Form:	Solid granules
Color:	Light brown/tan
Bulk Density:	0.70 g/ml

10. STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions

Incompatibility with other materials

None reasonably foreseeable

Decomposition

Decomposition will not occur

Polymerization

Polymerization will not occur

Other Hazards

The hazardous reactivity of this material is unknown. DO NOT expose to heat, flame, or extreme temperatures.

11. TOXICOLOGICAL INFORMATION

Animal Data

Tribenuron Methyl

Inhalation 4 hour LC₅₀: > 6.0 mg/L in rats (Very low toxicity)

Skin absorption LD₅₀: > 5000 mg/kg in rats (Very low to slightly toxic)

Oral LD₅₀: > 5000 mg/kg in rats (Very low toxicity)

Tribenuron Methyl is an eye irritant, and a skin sensitizer, but is not a skin irritant in animals.

The effects in animals from a single ingestion exposure to Tribenuron Methyl include severe weight loss and decreased food consumption. Repeated ingestion of high doses of Tribenuron Methyl caused body weight loss, increased liver and thyroid/parathyroid weights, altered clinical chemical parameters, but no significant gross or microscopic treatment related effects were noted. Long-term dosing caused body weight loss, alteration in clinical chemical parameters, and testicular atrophy (considered to be biologically insignificant).

Tribenuron Methyl produced an increased incidence of mammary tumors in female rats at dose levels also producing other significant effects. Developmental effects occurred in the rat, but only at a dose also toxic to the dam. No reproductive effects were observed in rats. Tribenuron Methyl did not produce genetic damage in bacterial or mammalian cell cultures or in animals.

11. TOXICOLOGICAL INFORMATION - continued

Thifensulfuron Methyl

Inhalation 4 hour LC₅₀: > 7.9 mg/L in rats (Very low toxicity by inhalation)

Skin absorption LD₅₀: > 2000 mg/kg in rabbits (Slightly to moderately toxic by contact)

Oral LD₅₀: > 5000 mg/kg in rats (Very low toxicity by ingestion)

Thifensulfuron Methyl is a slight skin irritant, and is a moderate eye irritant, but is not a skin sensitizer in animals.

The effects in animals from short inhalation exposure to Thifensulfuron Methyl include nonspecific effects such as weight loss, and irritation when compared to the control group.

Repeated ingestion exposures to Thifensulfuron Methyl caused decreased body and organ weights, and some blood chemistry changes, including increased blood urea nitrogen and decreased protein and globulins. Long-term exposures caused an increase in liver and gall bladder weights, decreased body weight gain, and a decreased level of sodium in the blood when compared to the control group.

No carcinogenic effects were observed in animal tests with Thifensulfuron Methyl. Animal data show developmental effects only at exposure levels producing toxic effects in the adult animal. Tests in animals demonstrate no reproductive toxicity. Thifensulfuron Methyl does not produce genetic damage in bacterial or mammalian cell cultures or animals.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

AQUATIC TOXICITY:

Thifensulfuron Methyl

96 hour LC50 - Rainbow trout: > 100 mg/L.

96 hour LC50 - Bluegill sunfish: > 100 mg/L.

AVIAN TOXICITY:

Thifensulfuron Methyl

Acute Oral LD50 - Mallard Duck: > 2510 mg/kg.

Acute Dietary LC50 - Mallard Duck: > 5620 mg/kg.

Acute Dietary LC50 - Bobwhite Quail: > 5620 mg/kg.

AQUATIC TOXICITY:

Tribenuron Methyl

96 hour LC50 - Rainbow trout: > 1000 mg/L.

Very low to low toxicity.

AVIAN TOXICITY:

Tribenuron Methyl

Acute Oral LD50 - Bobwhite Quail: > 2250 mg/kg.

Acute Dietary LC50 - Bobwhite Quail: > 5620 ppm.

Acute Dietary LC50 - Mallard Duck: > 5620 ppm.

13. DISPOSAL CONSIDERATION

Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Do not contaminate water, food, or feed by storage or disposal. Waste resulting from the use of this product may be disposed of on the site or at an approved waste disposal facility.

Waste Management

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Disposal

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION**DOT Classification**

Not regulated

IMDG Classification

Not regulated

IATA Classification

Not regulated

15. REGULATORY INFORMATION**SARA Title III Classification**

Section 302/304:

Not listed

Section 311/312:

Immediate (acute) health hazard

Section 313 chemical(s):

Not listed

Proposition 65

Not applicable

CERCLA Reportable Quantity (RQ)

Not applicable

RCRA Classification

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA Status

Exempt from TSCA

16. OTHER INFORMATIONNFPA Hazard Ratings

Health: 1
 Flammability: 0
 Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Notice: The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Prepared By:

Gowan Company
 (928) 783-8844

TNT™ is a trademark of Gowan Company, L.L.C.